#11 1600 1623

Serial Numb r: 09/483,337

CRF Processing Dat : 1/15/2002

Edited by: ___

ENTERED

Verified by: _____ (STIC staff)

RECEIVED

JAN 2 2 2002

TECH CENTER 1600/290

☐ Changed a file from non-ASCII to ASCII

☐ Changed the margins in cases where the sequence text was "wrapped" down to the next line.

☐ Edited a format error in the Current Application Data section, specifically: _____

☐ Edited the Current Application Data section with the actual current number. The number inputted by the applicant was ☐ the prior application data; or ☐ other _____.

☐ Added the mandatory heading and subheadings for "Current Application Data".

☐ Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer.

☐ Changed the spelling of a mandatory field (the headings or subheadings), specifically: _____

☐ Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were: _____

☐ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited: _____

☐ Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place.

☐ Inserted colons after headings/subheadings. Headings edited included: _____

☐ Deleted extra, invalid, headings used by an applicant, specifically: _____

☐ Deleted: ☐ non-ASCII "garbage" at the beginning/end of files; ☐ secretary initials/filename at end of file; ☐ page numbers throughout text; ☐ other invalid text, such as_____ .

☐ Inserted mandatory headings, specifically: _____

☐ Corrected an obvious error in the response, specifically: _____

☐ Edited identifiers where upper case is used but lower case is required, or vice versa.

☐ Corrected an error in the Number of Sequences field, specifically: _____

☐ A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted.

☐ Deleted *ending* stop codon in amino acid sequences and adjusted the "(A)Length:" field accordingly (error due to a PatentIn bug). Sequences corrected: _____

☑ Other: Corrected <1207 placement _____

*Examiner: Th above corrections must be communicated to the applicant in the first Office Action. DO NOT send a copy of this form.

3/1/95

This Raw Listing contains the General Information
Section and up to first 5 pages.

P.5

```
 1    <110> APPLICANT: Kool, Eric T.
 2    <120> TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR NONENZYMATIC LIGATION OF OLI
 3    <130> FILE REFERENCE: 220.00040101
 4    <140> CURRENT APPLICATION NUMBER: US/09/483,337
 5    <141> CURRENT FILING DATE: 2000-01-14
 6    <150> EARLIER APPLICATION NUMBER: US 60/116,059
 7    <151> EARLIER FILING DATE: 1999-01-15
 8    <160> NUMBER OF SEQ ID NOS: 40
 9    <170> SOFTWARE: PatentIn version 3.0
10    <210> SEQ ID NO 1
11    <211> LENGTH: 28
12    <212> TYPE: DNA
13    <213> ORGANISM: Artificial
14    <220> FEATURE:
15    <223> OTHER INFORMATION: autoligating hairpin
16    <220> FEATURE:
17    <221> NAME/KEY: misc_feature
18    <222> LOCATION: (1)..(1)
19    <223> OTHER INFORMATION: 5'-deoxy-5'-iodothymidine
20    <220> FEATURE:
21    <221> NAME/KEY: misc_feature
22    <222> LOCATION: (28)..(28)
23    <223> OTHER INFORMATION: deoxyadenosine with a phosphorothioate group on its
24          3' hydroxyl group
25    <400> SEQUENCE: 1
W-->  26          nccagcgtac ttttgtacgc tggatgcn                                28
27    <210> SEQ ID NO 2
28    <211> LENGTH: 28
29    <212> TYPE: DNA
30    <213> ORGANISM: Artificial
31    <220> FEATURE:
32    <223> OTHER INFORMATION: hairpin
33    <400> SEQUENCE: 2
34          tccagcgtac ttttgtacgc tggatgca                                 28
35    <210> SEQ ID NO 3
36    <211> LENGTH: 12
37    <212> TYPE: DNA
38    <213> ORGANISM: Artificial
39    <220> FEATURE:
40    <223> OTHER INFORMATION: oligonucleotide
41    <220> FEATURE:
42    <221> NAME/KEY: misc_feature
43    <222> LOCATION: (1)..(1)
44    <223> OTHER INFORMATION: 5'-deoxy-5'-iodothymidine
```

```
         45    <400> SEQUENCE: 3
W-->     46          ntcacgagcc tg                                                    12
         47    <210> SEQ ID NO 4
         48    <211> LENGTH: 18
         49    <212> TYPE: DNA
         50    <213> ORGANISM: Artificial
         51    <220> FEATURE:
         52    <223> OTHER INFORMATION: splint oligomer
         53    <400> SEQUENCE: 4
         54          ctagtccaaa gtgctcgg                                              18
         55    <210> SEQ ID NO 5
         56    <211> LENGTH: 20
         57    <212> TYPE: DNA
         58    <213> ORGANISM: Artificial
         59    <220> FEATURE:
         60    <223> OTHER INFORMATION: oligonucleotide
         61    <220> FEATURE:
         62    <221> NAME/KEY: misc_feature
         63    <222> LOCATION: (1)..(1)
         64    <223> OTHER INFORMATION: deoxyguanosine which is radiolabeled with 32P at its 5' en
         65    <220> FEATURE:
         66    <221> NAME/KEY: misc_feature
         67    <222> LOCATION: (8)..(8)
         68    <223> OTHER INFORMATION: deoxythymidine with a phosphorothioate group on its
         69          3' hydroxyl group
         70    <400> SEQUENCE: 5
W-->     71          natcaggntt cacgagcctg                                            20
         72    <210> SEQ ID NO 6
         73    <211> LENGTH: 20
         74    <212> TYPE: DNA
         75    <213> ORGANISM: Artificial
         76    <220> FEATURE:
         77    <223> OTHER INFORMATION: 20mer duplex carrying a sulfur linkage
         78    <220> FEATURE:
         79    <221> NAME/KEY: misc_feature
         80    <222> LOCATION: (8)..(8)
         81    <223> OTHER INFORMATION: deoxythymidine with a phosphorothioate group on its
         82          3' hydroxyl group
         83    <400> SEQUENCE: 6
W-->     84          gatcaggntt cacgagcctg                                            20
         85    <210> SEQ ID NO 7
         86    <211> LENGTH: 20
         87    <212> TYPE: DNA
         88    <213> ORGANISM: Artificial
         89    <220> FEATURE:
         90    <223> OTHER INFORMATION: sense primer
         91    <400> SEQUENCE: 7
         92          gtggggcagg agaccctgta                                            20
         93    <210> SEQ ID NO 8
         94    <211> LENGTH: 20
```

```
        95  <212> TYPE: DNA
        96  <213> ORGANISM: Artificial
        97  <220> FEATURE:
        98  <223> OTHER INFORMATION: antisense primer
        99  <400> SEQUENCE: 8
       100        ccctcctcta gaggaagcag                                        20
       101  <210> SEQ ID NO 9
       102  <211> LENGTH: 17
       103  <212> TYPE: DNA
       104  <213> ORGANISM: Artificial
       105  <220> FEATURE:
       106  <223> OTHER INFORMATION: ligated oligonucleotide
       107  <400> SEQUENCE: 9
       108        gtgggcgccg tcggtgt                                           17
       109  <210> SEQ ID NO 10
       110  <211> LENGTH: 17
       111  <212> TYPE: DNA
       112  <213> ORGANISM: Artificial
       113  <220> FEATURE:
       114  <223> OTHER INFORMATION: ligated oligonucleotide
       115  <220> FEATURE:
       116  <221> NAME/KEY: misc_feature
       117  <222> LOCATION: (10)..(10)
       118  <223> OTHER INFORMATION: deoxyguanosine with a phosphorothioate group on its
       119        3' hydroxyl group
       120  <400> SEQUENCE: 10
W-->   121        gtgggcgccn tcggtgt                                           17
       122  <210> SEQ ID NO 11
       123  <211> LENGTH: 17
       124  <212> TYPE: DNA
       125  <213> ORGANISM: Artificial
       126  <220> FEATURE:
       127  <223> OTHER INFORMATION: ligated oligonucleotide
       128  <220> FEATURE:
       129  <221> NAME/KEY: misc_feature
       130  <222> LOCATION: (10)..(10)
       131  <223> OTHER INFORMATION: deoxyguanosine with a phosphoroselenoate group on its
       132        3' hydoxyl group
       133  <400> SEQUENCE: 11
W-->   134        gtgggcgccn tcggtgt                                           17
       135  <210> SEQ ID NO 12
       136  <211> LENGTH: 12
       137  <212> TYPE: DNA
       138  <213> ORGANISM: Artificial
       139  <220> FEATURE:
       140  <223> OTHER INFORMATION: ssDNA starting sequence
       141  <220> FEATURE:
       142  <221> NAME/KEY: misc_feature
       143  <222> LOCATION: (1)..(1)
       144  <223> OTHER INFORMATION: 5'-deoxy-5'-iodothymidine
```

```
        145    <400> SEQUENCE: 12
W-->    146          ntcacgagcc tg                                              12
        147    <210> SEQ ID NO 13
        148    <211> LENGTH: 18
        149    <212> TYPE: DNA
        150    <213> ORGANISM: Artificial
        151    <220> FEATURE:
        152    <223> OTHER INFORMATION: ssDNA template
        153    <400> SEQUENCE: 13
        154          ggctcgtgaa acctgatc                                        18
        155    <210> SEQ ID NO 14
        156    <211> LENGTH: 20
        157    <212> TYPE: DNA
        158    <213> ORGANISM: Artificial
        159    <220> FEATURE:
        160    <223> OTHER INFORMATION: product of ssDNA ligation
        161    <220> FEATURE:
        162    <221> NAME/KEY: misc_feature
        163    <222> LOCATION: (8)..(8)
        164    <223> OTHER INFORMATION: deoxythymidine with a phosphorothioate group on its
        165          3' hydroxyl group
        166    <400> SEQUENCE: 14
W-->    167          gatcaggntt cacgagcctg                                       20
        168    <210> SEQ ID NO 15
        169    <211> LENGTH: 28
        170    <212> TYPE: DNA
        171    <213> ORGANISM: Artificial
        172    <220> FEATURE:
        173    <223> OTHER INFORMATION: duplex DNA starting sequence
        174    <220> FEATURE:
        175    <221> NAME/KEY: misc_feature
        176    <222> LOCATION: (1)..(1)
        177    <223> OTHER INFORMATION: 5'-deoxy-5'-iodothymidine
        178    <220> FEATURE:
        179    <221> NAME/KEY: misc_feature
        180    <222> LOCATION: (28)..(28)
        181    <223> OTHER INFORMATION: deoxyadenosine with a phosphorothioate group on its
        182          3' hydroxyl group
        183    <400> SEQUENCE: 15
W-->    184          nccagcgtac ttttgtacgc tggatgcn                              28
        185    <210> SEQ ID NO 16
        186    <211> LENGTH: 56
        187    <212> TYPE: DNA
        188    <213> ORGANISM: Artificial
        189    <220> FEATURE:
        190    <223> OTHER INFORMATION: circular product of duplex DNA ligation
        191    <220> FEATURE:
        192    <221> NAME/KEY: misc_feature
        193    <222> LOCATION: (1)..(1)
        194    <223> OTHER INFORMATION: deoxythymidine with a 5'-bridging phosphothioester linking
```

```
        195          group where sulfur is in the 5'-bridging position
        196    <220> FEATURE:
        197    <221> NAME/KEY: misc_feature
        198    <222> LOCATION: (29)..(29)
        199    <223> OTHER INFORMATION: deoxythymidine with a 5'-bridging phosphothioester linking
        200          group where sulfur is in the 5'-bridging position
        201    <400> SEQUENCE: 16
W-->    202          nccagcgtac ttttgtacgc tggatgcanc cagcgtactt ttgtacgctg gatgca          56
        203    <210> SEQ ID NO 17
        204    <211> LENGTH: 20
        205    <212> TYPE: DNA
        206    <213> ORGANISM: Artificial
        207    <220> FEATURE:
        208    <223> OTHER INFORMATION: splint oligomer
        209    <400> SEQUENCE: 17
        210          acggtccaaa acatattttg                                              20
        211    <210> SEQ ID NO 18
        212    <211> LENGTH: 30
        213    <212> TYPE: DNA
        214    <213> ORGANISM: Artificial
        215    <220> FEATURE:
        216    <223> OTHER INFORMATION: one-pot ligation oligonucleotide
        217    <220> FEATURE:
        218    <221> NAME/KEY: misc_feature
        219    <222> LOCATION: (1)..(1)
        220    <223> OTHER INFORMATION: 5'-deoxy-5'-iodothymidine
        221    <220> FEATURE:
        222    <221> NAME/KEY: misc_feature
        223    <222> LOCATION: (30)..(30)
        224    <223> OTHER INFORMATION: deoxythymidine with a phosphorothioate group on its
        225          3' hydroxyl group
        226    <400> SEQUENCE: 18
W-->    227          ngatcacttc gtctcttcag caaaatatgn                                    30
        228    <210> SEQ ID NO 19
        229    <211> LENGTH: 33
        230    <212> TYPE: DNA
        231    <213> ORGANISM: Artificial
        232    <220> FEATURE:
        233    <223> OTHER INFORMATION: one-pot ligation oligonucleotide
        234    <220> FEATURE:
        235    <221> NAME/KEY: misc_feature
        236    <222> LOCATION: (1)..(1)
        237    <223> OTHER INFORMATION: 5'-deoxy-5'-iodothymidine
        238    <220> FEATURE:
        239    <221> NAME/KEY: misc_feature
        240    <222> LOCATION: (33)..(33)
        241    <223> OTHER INFORMATION: deoxythymidine with a phosphorothioate group on its
        242          3' hydroxyl group
        243    <400> SEQUENCE: 19
W-->    244          nttggaccgt tggtttcgac ttgtcagagg acn                                33
```

Use of n and/or Xaa has been detected in the Sequence Listing.
Review the Sequence Listing to insure a corresponding
explanation is presented in the <220> to <223> fields of
each sequence using n or Xaa.

Line	?	Error/Warning	Original Text
26	W	"N" or "Xaa" used: Feature required	nccagcgtac ttttgtacgc tggatgcn
46	W	"N" or "Xaa" used: Feature required	ntcacgagcc tg
71	W	"N" or "Xaa" used: Feature required	natcaggntt cacgagcctg
84	W	"N" or "Xaa" used: Feature required	gatcaggntt cacgagcctg
121	W	"N" or "Xaa" used: Feature required	gtgggcgccn tcggtgt
134	W	"N" or "Xaa" used: Feature required	gtgggcgccn tcggtgt
146	W	"N" or "Xaa" used: Feature required	ntcacgagcc tg
167	W	"N" or "Xaa" used: Feature required	gatcaggntt cacgagcctg
184	W	"N" or "Xaa" used: Feature required	nccagcgtac ttttgtacgc tggatgcn
202	W	"N" or "Xaa" used: Feature required	nccagcgtac ttttgtacgc tggatgcanc cagcgtac
227	W	"N" or "Xaa" used: Feature required	ngatcacttc gtctcttcag caaaatatgn
244	W	"N" or "Xaa" used: Feature required	nttggaccgt tggtttcgac ttgtcagagg acn
270	W	"N" or "Xaa" used: Feature required	nttggaccgt tggtttcgac ttgtcagagg actngatc
292	W	"N" or "Xaa" used: Feature required	gatcaggtnt cacgagcctt atccgtccta tagtgagt
310	W	"N" or "Xaa" used: Feature required	nccagcgtat cttttgatac gctggatgca nccagcgt
331	W	"N" or "Xaa" used: Feature required	gtgggcgccn
380	W	"N" or "Xaa" used: Feature required	ncggtgtggg ttttcactga atatcacgat tacatttt
424	W	"N" or "Xaa" used: Feature required	ngtgggcaag agt
456	W	"N" or "Xaa" used: Feature required	ngngggcaag agt

1600

```
                RAW SEQUENCE LISTING           DATE: 01/10/2002
                PATENT APPLICATION:  US/09/483,337   TIME: 16:10:18

                Input Set : A:\ES.txt
                Output Set: N:\CRF3\01102002\I483337.raw
```

Does Not Comply
Corrected Diskette Needed

```
       3 <110> APPLICANT: Kool, Eric T.
       5 COMPOSITIONS AND METHODS FOR NONENZYMATIC LIGATION OF OLIGONUCLEOTIDES
       6      AND DETECTION OF GENETIC POLYMORPHISMS
W-->   0 <120> TITLE INVENTION:
       8 <130> FILE REFERENCE: 220.00040101
      10 <140> CURRENT APPLICATION NUMBER: US 09/483,337
      11 <141> CURRENT FILING DATE: 2000-01-14
      13 <150> PRIOR APPLICATION NUMBER: US 60/116,059
      14 <151> PRIOR FILING DATE: 1999-01-15
      16 <160> NUMBER OF SEQ ID NOS: 40
      18 <170> SOFTWARE: PatentIn version 3.0
      20 <210> SEQ ID NO: 1
      21 <211> LENGTH: 28
      22 <212> TYPE: DNA
C-->  23 <213> ORGANISM: Artificial
      25 <220> FEATURE:
      26 <223> OTHER INFORMATION: autoligating hairpin
      28 <220> FEATURE:
      29 <221> NAME/KEY: misc_feature
      30 <222> LOCATION: (1)..(1)
      31 <223> OTHER INFORMATION: 5'-deoxy-5'-iodothymidine
      34 <220> FEATURE:
      35 <221> NAME/KEY: misc_feature
      36 <222> LOCATION: (28)..(28)
      37 <223> OTHER INFORMATION: deoxyadenosine with a phosphorothioate group on its
      38      3' hydroxyl group
      41 <400> SEQUENCE: 1
      42 nccagcgtac ttttgtacgc tggatgcn                                   28
      45 <210> SEQ ID NO: 2
      46 <211> LENGTH: 28
      47 <212> TYPE: DNA
C-->  48 <213> ORGANISM: Artificial
      50 <220> FEATURE:
      51 <223> OTHER INFORMATION: hairpin
      53 <400> SEQUENCE: 2
      54 tccagcgtac ttttgtacgc tggatgca                                   28
      57 <210> SEQ ID NO: 3
      58 <211> LENGTH: 12
      59 <212> TYPE: DNA
C-->  60 <213> ORGANISM: Artificial
      62 <220> FEATURE:
      63 <223> OTHER INFORMATION: oligonucleotide
      65 <220> FEATURE:
      66 <221> NAME/KEY: misc_feature
      67 <222> LOCATION: (1)..(1)
      68 <223> OTHER INFORMATION: 5'-deoxy-5'-iodothymidine
      71 <400> SEQUENCE: 3
```

RAW SEQUENCE LISTING   DATE: 01/10/2002
PATENT APPLICATION: US/09/483,337 TIME: 16:10:18

Input Set : A:\ES.txt
Output Set: N:\CRF3\01102002\I483337.raw

```
 72  ntcacgagcc tg                                                    12
 75  <210> SEQ ID NO: 4
 76  <211> LENGTH: 18
 77  <212> TYPE: DNA
 78  <213> ORGANISM: Artificial
 80  <220> FEATURE:
 81  <223> OTHER INFORMATION: splint oligomer
 83  <400> SEQUENCE: 4
 84  ctagtccaaa gtgctcgg                                              18
 87  <210> SEQ ID NO: 5
 88  <211> LENGTH: 20
 89  <212> TYPE: DNA
 90  <213> ORGANISM: Artificial
 92  <220> FEATURE:
 93  <223> OTHER INFORMATION: oligonucleotide
 95  <220> FEATURE:
 96  <221> NAME/KEY: misc_feature
 97  <222> LOCATION: (1)..(1)
 98  <223> OTHER INFORMATION: deoxyguanosine which is radiolabeled with 32P at its 5' end
101  <220> FEATURE:
102  <221> NAME/KEY: misc_feature
103  <222> LOCATION: (8)..(8)
104  <223> OTHER INFORMATION: deoxythymidine with a phosphorothioate group on its
105        3' hydroxyl group
108  <400> SEQUENCE: 5
109  natcaggntt cacgagcctg                                           20
112  <210> SEQ ID NO: 6
113  <211> LENGTH: 20
114  <212> TYPE: DNA
115  <213> ORGANISM: Artificial
117  <220> FEATURE:
118  <223> OTHER INFORMATION: 20mer duplex carrying a sulfur linkage
120  <220> FEATURE:
121  <221> NAME/KEY: misc_feature
122  <222> LOCATION: (8)..(8)
123  <223> OTHER INFORMATION: deoxythymidine with a phosphorothioate group on its
124        3' hydroxyl group
127  <400> SEQUENCE: 6
128  gatcaggntt cacgagcctg                                           20
131  <210> SEQ ID NO: 7
132  <211> LENGTH: 20
133  <212> TYPE: DNA
134  <213> ORGANISM: Artificial
136  <220> FEATURE:
137  <223> OTHER INFORMATION: sense primer
139  <400> SEQUENCE: 7
140  gtggggcagg agaccctgta                                           20
143  <210> SEQ ID NO: 8
144  <211> LENGTH: 20
```

```
     145  <212> TYPE: DNA
C-->  146  <213> ORGANISM: Artificial
     148  <220> FEATURE:
     149  <223> OTHER INFORMATION: antisense primer
     151  <400> SEQUENCE: 8
     152  ccctcctcta gaggaagcag                                          20
     155  <210> SEQ ID NO: 9
     156  <211> LENGTH: 17
     157  <212> TYPE: DNA
C-->  158  <213> ORGANISM: Artificial
     160  <220> FEATURE:
     161  <223> OTHER INFORMATION: ligated oligonucleotide
     163  <400> SEQUENCE: 9
     164  gtgggcgccg tcggtgt                                             17
     167  <210> SEQ ID NO: 10
     168  <211> LENGTH: 17
     169  <212> TYPE: DNA
C-->  170  <213> ORGANISM: Artificial
     172  <220> FEATURE:
     173  <223> OTHER INFORMATION: ligated oligonucleotide
     175  <220> FEATURE:
     176  <221> NAME/KEY: misc_feature
     177  <222> LOCATION: (10)..(10)
     178  <223> OTHER INFORMATION: deoxyguanosine with a phosphorothioate group on its
     179        3' hydroxyl group
     182  <400> SEQUENCE: 10
     183  gtgggcgccn tcggtgt                                             17
     186  <210> SEQ ID NO: 11
     187  <211> LENGTH: 17
     188  <212> TYPE: DNA
C-->  189  <213> ORGANISM: Artificial
     191  <220> FEATURE:
     192  <223> OTHER INFORMATION: ligated oligonucleotide
     194  <220> FEATURE:
     195  <221> NAME/KEY: misc_feature
     196  <222> LOCATION: (10)..(10)
     197  <223> OTHER INFORMATION: deoxyguanosine with a phosphoroselenoate group on its
     198        3' hydoxyl group
     201  <400> SEQUENCE: 11
     202  gtgggcgccn tcggtgt                                             17
     205  <210> SEQ ID NO: 12
     206  <211> LENGTH: 12
     207  <212> TYPE: DNA
C-->  208  <213> ORGANISM: Artificial
     210  <220> FEATURE:
     211  <223> OTHER INFORMATION: ssDNA starting sequence
     213  <220> FEATURE:
     214  <221> NAME/KEY: misc_feature
     215  <222> LOCATION: (1)..(1)
```

RAW SEQUENCE LISTING   DATE: 01/10/2002
PATENT APPLICATION: US/09/483,337   TIME: 16:10:18

Input Set : A:\ES.txt
Output Set: N:\CRF3\01102002\I483337.raw

```
    216 <223> OTHER INFORMATION: 5'-deoxy-5'-iodothymidine
    219 <400> SEQUENCE: 12
220 ntcacgagcc tg                                                    12
    223 <210> SEQ ID NO: 13
    224 <211> LENGTH: 18
    225 <212> TYPE: DNA
226 <213> ORGANISM: Artificial
    228 <220> FEATURE:
    229 <223> OTHER INFORMATION: ssDNA template
    231 <400> SEQUENCE: 13
    232 ggctcgtgaa acctgatc                                           18
    235 <210> SEQ ID NO: 14
    236 <211> LENGTH: 20
    237 <212> TYPE: DNA
238 <213> ORGANISM: Artificial
    240 <220> FEATURE:
    241 <223> OTHER INFORMATION: product of ssDNA ligation
    243 <220> FEATURE:
    244 <221> NAME/KEY: misc_feature
    245 <222> LOCATION: (8)..(8)
    246 <223> OTHER INFORMATION: deoxythymidine with a phosphorothioate group on its
    247       3' hydroxyl group
    250 <400> SEQUENCE: 14
251 gatcaggntt cacgagcctg                                            20
    254 <210> SEQ ID NO: 15
    255 <211> LENGTH: 28
    256 <212> TYPE: DNA
257 <213> ORGANISM: Artificial
    259 <220> FEATURE:
    260 <223> OTHER INFORMATION: duplex DNA starting sequence
    262 <220> FEATURE:
    263 <221> NAME/KEY: misc_feature
    264 <222> LOCATION: (1)..(1)
    265 <223> OTHER INFORMATION: 5'-deoxy-5'-iodothymidine
    268 <220> FEATURE:
    269 <221> NAME/KEY: misc_feature
    270 <222> LOCATION: (28)..(28)
    271 <223> OTHER INFORMATION: deoxyadenosine with a phosphorothioate group on its
    272       3' hydroxyl group
    275 <400> SEQUENCE: 15
276 nccagcgtac ttttgtacgc tggatgcn                                   28
    279 <210> SEQ ID NO: 16
    280 <211> LENGTH: 56
    281 <212> TYPE: DNA
282 <213> ORGANISM: Artificial
    284 <220> FEATURE:
    285 <223> OTHER INFORMATION: circular product of duplex DNA ligation
    287 <220> FEATURE:
    288 <221> NAME/KEY: misc_feature
```

RAW SEQUENCE LISTING   DATE: 01/10/2002
PATENT APPLICATION: US/09/483,337   TIME: 16:10:18

Input Set : A:\ES.txt
Output Set: N:\CRF3\01102002\I483337.raw

```
289 <222> LOCATION: (1)..(1)
290 <223> OTHER INFORMATION: deoxythymidine with a 5'-bridging phosphothioester linking
291      group where sulfur is in the 5'-bridging position
294 <220> FEATURE:
295 <221> NAME/KEY: misc_feature
296 <222> LOCATION: (29)..(29)
297 <223> OTHER INFORMATION: deoxythymidine with a 5'-bridging phosphothioester linking
298      group where sulfur is in the 5'-bridging position
301 <400> SEQUENCE: 16
302 nccagcgtac ttttgtacgc tggatgcanc cagcgtactt ttgtacgctg gatgca        56
305 <210> SEQ ID NO: 17
306 <211> LENGTH: 20
307 <212> TYPE: DNA
308 <213> ORGANISM: Artificial
310 <220> FEATURE:
311 <223> OTHER INFORMATION: splint oligomer
313 <400> SEQUENCE: 17
314 acggtccaaa acatattttg                                                20
317 <210> SEQ ID NO: 18
318 <211> LENGTH: 30
319 <212> TYPE: DNA
320 <213> ORGANISM: Artificial
322 <220> FEATURE:
323 <223> OTHER INFORMATION: one-pot ligation oligonucleotide
325 <220> FEATURE:
326 <221> NAME/KEY: misc_feature
327 <222> LOCATION: (1)..(1)
328 <223> OTHER INFORMATION: 5'-deoxy-5'-iodothymidine
331 <220> FEATURE:
332 <221> NAME/KEY: misc_feature
333 <222> LOCATION: (30)..(30)
334 <223> OTHER INFORMATION: deoxythymidine with a phosphorothioate group on its
335      3' hydroxyl group
338 <400> SEQUENCE: 18
339 ngatcacttc gtctcttcag caaaatatgn                                     30
342 <210> SEQ ID NO: 19
343 <211> LENGTH: 33
344 <212> TYPE: DNA
345 <213> ORGANISM: Artificial
347 <220> FEATURE:
348 <223> OTHER INFORMATION: one-pot ligation oligonucleotide
350 <220> FEATURE:
351 <221> NAME/KEY: misc_feature
352 <222> LOCATION: (1)..(1)
353 <223> OTHER INFORMATION: 5'-deoxy-5'-iodothymidine
356 <220> FEATURE:
357 <221> NAME/KEY: misc_feature
358 <222> LOCATION: (33)..(33)
359 <223> OTHER INFORMATION: deoxythymidine with a phosphorothioate group on its
```

VERIFICATION SUMMARY
PATENT APPLICATION: US/09/483,337

DATE: 01/10/2002
TIME: 16:10:19

Input Set : **A:\ES.txt**
Output Set: **N:\CRF3\01102002\I483337.raw**

```
L:0 M:201 W: Mandatory field data missing, TITLE INVENTION
L:23 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:1
L:42 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:48 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:2
L:60 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:3
L:72 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:78 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:4
L:90 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:5
L:109 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:115 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:6
L:128 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:134 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:7
L:146 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:8
L:158 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:9
L:170 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:10
L:183 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:189 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:11
L:202 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:208 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:12
L:220 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:226 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:13
L:238 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:14
L:251 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14
L:257 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:15
L:276 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15
L:282 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:16
L:302 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16
L:308 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:17
L:320 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:18
L:339 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18
L:345 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:19
L:364 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19
L:370 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:20
L:382 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:21
L:402 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21
L:410 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:22
L:422 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:23
L:435 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23
L:441 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:24
L:461 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24
L:467 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:25
L:479 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:26
L:492 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:26
L:498 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:27
L:510 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:28
L:522 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:29
L:534 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:30
L:546 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:31
```

VERIFICATION SUMMARY   DATE: 01/10/2002
PATENT APPLICATION: US/09/483,337   TIME: 16:10:19

Input Set : **A:\ES.txt**
Output Set: **N:\CRF3\01102002\I483337.raw**

```
L:565 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31
L:571 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:32
L:583 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:33
L:595 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:34
L:607 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:35
L:619 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:36
L:631 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36
L:637 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:37
L:649 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:38
L:661 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:39
L:679 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39
L:685 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:40
```